DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/02/2008 has been entered.

Response to Amendment

With regard to claim 1, applicant argues that Yokochi does not discloses an obtainer configured to determine whether an image property of the pixel indicates the pixel is characteristic of a photograph, when the pixel is determined as achromatic by the chromatic tester; a converting condition designator configured to designate (1) a first one of the predetermined converting conditions for the pixel determining is chromatic, (2) a second one of the predetermined converting conditions when the pixel is determined as achromatic and an the image property of the pixel indicates the pixel is not characteristic of a photograph, and (3) the first one of the predetermined converting conditions when the pixel is determined as achromatic and the image property of the pixel indicates the pixel is characteristic of a photograph.

In response: Yokochi discloses an obtainer (e.g., black character determination circuit, block 95f, figure 4) configured to determine whether an image property of the pixel indicates the pixel is characteristic of a character (e.g., the black character determination circuit 95f is for performing a black character determination..., paragraph

0112), when the pixel is determined as achromatic by the chromatic tester (e.g.,

achromatic area judgment circuit block 95e, figure 4) configured to determine whether a

pixel of the original image data is chromatic or achromatic (e.g., the achromatic area

judgment circuit 95e judges whether or not each character-area pixel is achromatic

based on YIQ data, paragraph 0105); and a converting condition designator (e.g., the

circuit 95e, figure 4) configured to designate a first one of the of predetermined

converting conditions for the pixel determined as chromatic (e.g., the circuit 95e

determines that the subject pixel 17 is chromatic if the absolute value of the average of

the chroma component in the judgment area 20 is greater than or equal to the threshold

T1, paragraph 0110).

Yokochi differs from claim 1 in that he does not explicitly discloses a second one

of the predetermined converting conditions when the pixel is determined as achromatic

and the image property of the pixel indicates the pixel is not characteristic of a

photograph, and the first one of the predetermined converting conditions when the pixel

is determined as achromatic and the image property of the pixel indicates the pixel is

characteristic of a photograph.

Watanabe discloses the predetermined converting conditions (e.g., color

converter 8002, figure 7) when the pixel is determined as achromatic and the image

property of the pixel indicates the pixel is not characteristic of a photograph, and the first

one of the predetermined converting conditions when the pixel is determined as

achromatic and the image property of the pixel indicates the pixel is characteristic of a

photograph (e.g., a color converter 8002 for converting an RGB signal to a YMC

(yellow, magenta, cyan) signal; a photograph region identification section 8003 for

judging whether or not a noted pixel is a photograph region from the black-and-white

(Bk) image data or the R, G, B image data; and a color region identification section

8004 for judging whether the noted pixel is chromatic or achromatic, paragraph 0109).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to have modified Yokochi to include the predetermined converting

conditions when the pixel is determined as achromatic and the image property of the

pixel indicates the pixel is not characteristic of a photograph, and the first one of the

predetermined converting conditions when the pixel is determined as achromatic and

the image property of the pixel indicates the pixel is characteristic of a photograph as

taught by Watanabe. It would have been obvious to one of ordinary skill in the art at the

time of the invention to have modified Yokochi by the teaching of Watanabe to enhance

photograph quality.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

With regard to claim 1, Yokochi discloses an image processing apparatus (e.g., image processing device, paragraph 0038) for generating graphics data (e.g., color copier for generating graphics data, figure 1) according to picture description instructions based on original image data of full color (e.g., each set of digital input signals including digital input signals for at least three color (full color) components indicative of a color state of the corresponding pixel, paragraph 0015), comprising: a chromatic tester (e.g., achromatic area judgment circuit block 95e, figure 4) configured to determine whether a pixel of the original image data is chromatic or achromatic (e.g., the achromatic area judgment circuit 95e judges whether or not each character-area pixel is achromatic based on YIQ data, paragraph 0105); an obtainer (e.g., black character determination circuit, block 95f, figure 4) configured to determine whether an image property of the pixel indicates the pixel is characteristic of a character, when the pixel is determined as achromatic by the chromatic tester (e.g., the black character determination circuit 95f is for performing a black character determination…, paragraph 0112); a color converter configured to convert the pixel into CMYK data for printing according to one of a plurality of predetermined converting conditions (e.g., converting the corrected RGB data sets into print data sets C', M', Y', K1, paragraphs 0055, 0056 or perfect black of paragraph 0228); and a converting condition designator (e.g., the circuit 95e, figure 4) configured to designate a first one of the of predetermined converting conditions for the pixel determined as chromatic (e.g., the circuit 95e determines that the subject pixel 17 is chromatic if the absolute value of the average of

the chroma component in the judgment area 20 is greater than or equal to the threshold
T1, paragraph 0110).

Yokochi differs from claim 1 in that he does not explicitly discloses a second one
of the predetermined converting conditions when the pixel is determined as achromatic
and the image property of the pixel indicates the pixel is not characteristic of a
photograph, and the first one of the predetermined converting conditions when the pixel
is determined as achromatic and the image property of the pixel indicates the pixel is
characteristic of a photograph.

Watanabe discloses the predetermined converting conditions when the pixel is
determined as achromatic and the image property of the pixel indicates the pixel is not
characteristic of a photograph, and the first one of the predetermined converting
conditions when the pixel is determined as achromatic and the image property of the
pixel indicates the pixel is characteristic of a photograph (e.g., a color converter 8002 for
converting an RGB signal to a YMC (yellow, magenta, cyan) signal; a photograph
region identification section 8003 for judging whether or not a noted pixel is a
photograph region from the black-and-white (Bk) image data or the R, G, B image data;
and a color region identification section 8004 for judging whether the noted pixel is
chromatic or achromatic, paragraph 0109).

Therefore it would have been obvious to one of ordinary skill in the art at the time
of the invention to have modified Yokochi to include the predetermined converting
conditions when the pixel is determined as achromatic and the image property of the

pixel indicates the pixel is not characteristic of a photograph, and the first one of the predetermined converting conditions when the pixel is determined as achromatic and the image property of the pixel indicates the pixel is characteristic of a photograph as taught by Watanabe. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Yokochi by the teaching of Watanabe to enhance photograph quality.

With regard to claim 2, Yokochi discloses wherein said chromatic tester determines the pixel as achromatic when values of RGB color components are identical to each other (paragraph 0109).

With regard to claim 3, Yokochi discloses wherein said chromatic tester determines the pixel as achromatic when differences in data value among RGB components of the pixel fall within respective predetermined threshold values (paragraph 0109).

With regard to claim 4, Yokochi discloses wherein the predetermined condition used for the pixel determined as achromatic is any one of a K monochrome converting condition using a black color and a normal converting condition using cyan, magenta, yellow, and black colors (paragraph 0056).

With regard to claim 5, Yokochi discloses wherein said obtainer checks pixels in a predetermined area in the original image data to obtain the image property of the pixel (paragraphs 0015, 0016).

With regard to claim 6, Yokochi discloses wherein the image property of the pixel is either one of a first image property of including any chromatic pixel in the pixels in the

predetermined area and a second property of not including any chromatic pixel in the pixels in the predetermined area, and said converting condition designator designates the K monochrome converting condition to the pixel having the first image property (paragraphs 0072, 0077).

With regard to claim 7, Yokochi discloses wherein the predetermined area comprises a predetermined number of sequential pixels immediately preceding the pixel in a main scanning direction (paragraph 0015).

With regard to claim 8, Yokochi discloses wherein the predetermined area comprises a predetermined number of sequential pixels immediately succeeding the pixel in a main scanning direction (paragraph 0016).

With regard to claim 9, Yokochi discloses wherein the predetermined area comprises a predetermined number of sequential pixels immediately preceding and succeeding the pixel in a main scanning direction (paragraphs 0015, 0090).

With regard to claim 10, Yokochi discloses wherein the predetermined area is formed with an m-by-n matrix surrounding the pixel, m and n being positive integer values greater than zero (paragraph 0090).

With regard to claim 11, the subject matter is similar to claim 1. Therefore claim 11 is rejected as set forth above for claim 1.

With regard to claim 12, the subject matter is similar to claim 2. Therefore claim 12 is rejected as set forth above for claim 2.

With regard to claim 13, the subject matter is similar to claim 3. Therefore claim 13 is rejected as set forth above for claim 3.

With regard to claim 14, the subject matter is similar to claim 4. Therefore claim 14 is rejected as set forth above for claim 4.

With regard to claim 15, the subject matter is similar to claim 5. Therefore claim 15 is rejected as set forth above for claim 5.

With regard to claim 16, the subject matter is similar to claim 6. Therefore claim 16 is rejected as set forth above for claim 6.

With regard to claim 17, the subject matter is similar to claim 7. Therefore claim 17 is rejected as set forth above for claim 7.

With regard to claim 18, the subject matter is similar to claim 8. Therefore claim 18 is rejected as set forth above for claim 8.

With regard to claim 19, the subject matter is similar to claim 9. Therefore claim 19 is rejected as set forth above for claim 9.

With regard to claim 20, the subject matter is similar to claim 10. Therefore claim 20 is rejected as set forth above for claim 10.

Referring to claim 21:

Claim 21 is the method claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 21 is rejected as set forth above for claim 1.

Referring to claim 22:

Claim 22 is the method claim corresponding to operation of the device in claim 2 with method steps corresponding directly to the function of device elements in claim 2. Therefore claim 22 is rejected as set forth above for claim 2.

Referring to claim 23:

Claim 23 is the method claim corresponding to operation of the device in claim 3 with method steps corresponding directly to the function of device elements in claim 3. Therefore claim 23 is rejected as set forth above for claim 3.

Referring to claim 24:

Claim 24 is the method claim corresponding to operation of the device in claim 4 with method steps corresponding directly to the function of device elements in claim 4. Therefore claim 24 is rejected as set forth above for claim 4.

Referring to claim 25:

Claim 25 is the method claim corresponding to operation of the device in claim 5 with method steps corresponding directly to the function of device elements in claim 5. Therefore claim 25 is rejected as set forth above for claim 5.

Referring to claim 26:

Claim 26 is the method claim corresponding to operation of the device in claim 6

with method steps corresponding directly to the function of device elements in claim 6.

Therefore claim 26 is rejected as set forth above for claim 6.

Referring to claim 27:

Claim 27 is the method claim corresponding to operation of the device in claim 7

with method steps corresponding directly to the function of device elements in claim 7.

Therefore claim 27 is rejected as set forth above for claim 7.

Referring to claim 28:

Claim 28 is the method claim corresponding to operation of the device in claim 8

with method steps corresponding directly to the function of device elements in claim 8.

Therefore claim 28 is rejected as set forth above for claim 8.

Referring to claim 29:

Claim 29 is the method claim corresponding to operation of the device in claim 9

with method steps corresponding directly to the function of device elements in claim 9.

Therefore claim 29 is rejected as set forth above for claim 9.

Referring to claim 30:

Claim 30 is the method claim corresponding to operation of the device in claim

10 with method steps corresponding directly to the function of device elements in claim

10. Therefore claim 30 is rejected as set forth above for claim 10.

Referring to claim 41:

Claim 41 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 1 with method steps corresponding directly to the function of device elements in claim 1. Therefore claim 41 is rejected as set forth above for claim 1.

Referring to claim 42:

Claim 42 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 2 with method steps corresponding directly to the function of device elements in claim 2. Therefore claim 42 is rejected as set forth above for claim 2.

Referring to claim 43:

Claim 43 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 3 with method steps corresponding directly to the function of device elements in claim 3. Therefore claim 43 is rejected as set forth above for claim 3.

Referring to claim 44:

Claim 44 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 4 with method steps corresponding directly to the function of device elements in claim 4. Therefore claim 44 is rejected as set forth above for claim 4.

Referring to claim 45:

Claim 45 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 5 with method steps corresponding directly to the function of device elements in claim 5. Therefore claim 45 is rejected as set forth above for claim 5.

Referring to claim 46:

Claim 46 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 6 with method steps corresponding directly to the function of device elements in claim 6. Therefore claim 46 is rejected as set forth above for claim 6.

Referring to claim 47:

Claim 47 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 7 with method steps corresponding directly to the function of device elements in claim 7. Therefore claim 47 is rejected as set forth above for claim 7.

Referring to claim 48:

Claim 48 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 8 with method steps corresponding directly to the function of device elements in claim 8. Therefore claim 48 is rejected as set forth above for claim 8.

Referring to claim 49:

Claim 49 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 9 with method steps corresponding directly to the function of device elements in claim 9. Therefore claim 49 is rejected as set forth above for claim 9.

Referring to claim 50:

Claim 50 is the computer readable medium storing computer instructions claim corresponding to operation of the device in claim 10 with method steps corresponding directly to the function of device elements in claim 10. Therefore claim 50 is rejected as set forth above for claim 10.

With regard to claim 53, Watanabe discloses obtaining the image property of the pixel by determining whether the pixel is part of a photographic image (e.g., a photograph region identification section 8003 for judging whether or not a noted pixel is a photograph region from the black-and-white (Bk) image data or the R, G, B image data, paragraph 0109).

With regard to claim 54, Watanabe discloses means for expanding text or graphics data into bitmap data based on color instruction data prior to testing the bitmap data using the chromatic tester (e.g., the color multivalued CoDec (coder, decoder) 9009 compresss/extends the image data, paragraphs 0120, 0121, figure 8).

With regard to claim 55, Watanabe discloses means for determining the image property of the pixel based on user input to the image processing apparatus (e.g., user I/F section 6, figure 1, paragraphs 0167, 0168).

With regard to claim 56, Watanabe discloses means for determining the image property of the pixel by examining area information of an object specified in the picture description instruction (e.g., image handling section 6000 for storing different kind of image data (pixel), figure 8, paragraphs 110-119).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUANG N. VO whose telephone number is (571)270-1121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 5712727440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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